ANNEX II.
BRIEF DICTIONARY OF IP AND SB TERMS

TERMS FOR SCIENTISTS-ENGINEERS AND LAWYERS, RESPECTIVELY

DICTIONARY FOR BIOLOGISTS[1]

- **Appeal**: to challenge a decision taken by a Patent Office, such as a decision to refuse to protect the technology or the invention subject of a patent application.
- **Applicant**: natural person or legal person applying for the granting of an Industrial Property Right (e.g., patents or trademarks).
- **Application** (of an Industrial Property Right): a request filed by an Applicant or by the Applicant's agent on its behalf for the granting of an Industrial Property Right.
- **Availability to the Public**: to give to the public the information of the registered invention.
- **Board of Appeal**: Body responsible for examining appeals against decisions taken by the relevant Patent Office.
- **Claims**: the main part of a patent document which defines the scope of the technology/invention's protection. Also, it could refer to a lawsuit against counterparties.
- **Classification**: in patents, it means a specific system which subdivides the relevant technology into different subcategories. Each subcategory classifies a patented invention depending on its technical characteristics. It also applies for other industrial property rights like trademarks.
- **Description of the Invention/Technology**: it is one of the essential parts of patent documents that helps the claims to define the scope of protection. It includes a summary of the invention, its technical field, the technology's background and the essential features of the invention with reference to relevant drawings.
- **Disclosure**: to reveal to the public the contents of an invention claimed. To be valid for purposes requesting protection under a patent law, such a disclosure must be made in a manner sufficiently clear and complete for the invention to be carried out by a person knowledgeable in the field.
- **EPO**: European Patent Convention is a legal instrument that provides a legal framework for the granting of European patents before the European Patent Office. It provides a unique set of rules to harmonise procedures between European states in order to avoid filing separate patent application in each country with different requirements.
- **Examination**: related to patents means to see whether the application complies with the patentability or registrability requirements of the

[1] *GLOSSARY OF TERMS CONCERNING INDUSTRIAL PROPERTY INFORMATION AND DOCUMENTATION*. HANDBOOK ON INDUSTRIAL PROPERTY
INFORMATION AND DOCUMENTATION. WIPO (June 2013)

industrial property law. The examiner who is an industrial property law authority performs this job.

- **File**: it means the totality of documents pertaining to a given patent application or granted patent.
- **Industrial Design**: it is a type of industrial property protection which protects the visual aspect of an object, including its two-dimensional and three-dimensional features of shape and surface.
- **Industrial Property**: type of intellectual property that protects industrial application inventions granting rights such as patents, trademarks, designs, mask works and plant breeders.
- **Infringement**: violation of an exclusive industrial property right by selling or using a patented product or process without the permission of the right's owner.
- **Intellectual Property**: creation of the mind. It is divided into two categories: (i) industrial property, which includes patents, trademarks, industrial designs, and (ii) copyright, which includes literary and artistic works such as novels, poems and plays, films, musical works, artistic works such as drawings, paintings, photographs and sculptures, and architectural designs, amongst others.
- **Invention**: new product, process or machinery or any new use thereof. It must fulfil some essential requirements to be patentable.
- **Inventor's Certificate**: a document similar to an invention disclosure form that exists in several countries, which function is to acknowledge the authorship of an invention to its inventor(s), disregarding patents.
- **Inventive Step**: one of the requirements that an invention must match in order to be patentable. It means that considering the invention's state of the art, the invention is not obvious (see Obviousness) to a person skilled in the art.
- **Know-how**: it is a transferable right which consists on the knowledge of a particular person regarding non disclosed and valuable industrial information that can be of economic, financial, technical and/or organizational nature. It is limited accessible, usable and exploitable and is deemed to have protection until it becomes part of the public domain.
- **Licensing**: consists on granting the right to exploit a patent application or a patent by the licensor to a licensee.
- **Litigation**: an action brought in court to enforce a particular right.
- **Morality**: related to the belief that some behaviour was right and acceptable whereas other behaviour was wrong, this belief being founded on the totality of the accepted norms which were deeply rooted in a particular culture. For the purposes of the EPC, the culture in question was the culture inherent in European society and civilisation. Accordingly, inventions the exploitation of which was not in conformity with the conventionally accepted standards of conduct pertaining to this culture were to be excluded from patentability as being contrary to morality.
- **Novelty**: a condition for patentability in all the jurisdictions. An invention is new if it does not form part of the State of the Art, that is, the invention was not available to the public, in any form, before the filing of the patent application.
- **Obviousness**: a characteristic of an invention which means that if a person with ordinary skill in the relevant field of technology can deduce it from publicly available information (prior art), then it does not meet the conditions for patentability.
- **Official Gazette**: official bulleting or journal published by Patent Offices, which records information on the procedural steps taken in respect

of concrete industrial property rights, as well as on official communications of the office, the changes of the current industrial property laws, or the legal status of patent documents, etc. They usually give information regarding at the status of a concrete invention.

- **Order public**: Protection of public security and the physical integrity of individuals as part of society. It also encompassed the protection of the environment. Accordingly, inventions the exploitation of which was likely to seriously prejudice the environment were to be excluded from patentability as being contrary to "ordre public". **Paris Convention**: is the basic international convention held in Paris in 1883 in the field of industrial property, adhered by over 100 States. Its aim is to warrant the same kind of protection for all the contracting States.
- **Patent**: it is a title of legal protection of an invention issued, upon application and subject to meeting legal criteria, by a government office. The rights conferred by a patent are the rights to prevent others from making, using, selling, offering for sale or importing a product, a process, or a product obtained by a (patented) process.
- **Patent Family**: it is the collection of different patent documents relating to the same invention or several inventions sharing a common aspect that are published at different times in the same country or published in different countries or regions.
- **Patentee**: the owner of the patent, who has the right to exploit it, directly or indirectly, through others.
- **Person skilled in the art**: Someone with knowledge and experience in the technical field of the invention. He or she is a fiction person who serves as a reference to examine if the invention is patentable or not according to its knowledge and experience.
- **Plant Breeder's Rights**: it offers legal protection to "breeders" or plant producers of new varieties of plants.
- **Priority Application**: Article 4 of the Paris Convention allows to apply for a "priority" patent in a particular territory and then to file a foreign patent application in other territories claiming the same date as the one given for the priority patent within 1 year from the priority application.
- **Publication**: in patents, it means making available the contents of a document to the public, usually at the Official Gazette.
- **TRIPS Agreement**: the most important multilateral agreement on intellectual property rights. It set down minimum standards that covers copyrights; trademarks; geographical indications; industrial designs; patents including the protection of new varieties of plants; layout-designs of integrate circuits; and undisclosed information including trade secrets and test data. The three main characteristics of this agreement are standards, enforcement and dispute settlement.
- **Refusal**: Decision of not granting a patent application because it does not fulfil the necessary / essential requirements.
- **Register** (of Industrial Property Rights): Register kept by an industrial property office in which is recorded the legal status of different industrial property rights. Usually, the office keeps separately a patent register, a trademark register and an industrial design register.
- **State of the Art**: it means the knowledge of a particular technical field available or disclosed to the public in a particular period of time, in a particular territory.
- **Term**: Maximum period for which a patent can be legally valid.

- **Trade Mark**: also known as mark. It is a sign that serves to identify the goods and the services of an industrial or a commercial enterprise or a group of such enterprises from the goods and the services of others persons. It may consist on a character, a drawing, colours or combination of them.
- **Utility Model**: a right addressed to protect minor inventions upon application, in accordance with requirements somewhat less strict than those for obtaining patent protection and to a lesser extent. The rights conferred by this title are similar to the patent rights.
- **WIPO** (World Intellectual Property Organization): Specialized agency of the United Nations (UN), which aims are to protect and grant cooperation upon intellectual property rights. It provides a global policy forum where governments, intergovernmental organizations, industry groups and civil society come together to address developing IP issues.

- **Antibiotic**: an antibiotic or antimicrobial is a compound or molecule that kills (**microbicide/microbiolitic**) or inhibits the growth of the microorganism (**microbiostatic**).
- **Antibiotic resistance**: some microorganisms have either mechanisms that allow them overcoming this selective agents or structures (antibiotic targets) insensitive to them. Those microbes are then naturally resistant to certain antibiotics so they can grow in the presence of those agents. Others, by contrast, are sensitive but can become resistant through acquisition of sequences of DNA (**genes of resistance**). This strategy is widely used in molecular biology to select cells with characteristics of interest (like a **BioBrick**).
- **Asepsis**: working procedures that avoid the surrounding environmental microorganisms to enter the working area.
- **Antisepsis**: methods or procedures that prevent the development of microorganisms, being able to even kill them (antiseptic refers to compounds used only on the surface of the body).
- **Viable non-cultivable cells**: under certain non-favourable conditions (strong stresses, for example) some cells come into this state where they are not able to be cultured in the conventional media but present an active metabolism.
- **BioBrick**: DNA sequence that presents, at the ends, known restriction sites (**prefix** and **suffix**) that allow using **BioBricks** as standard interchangeable parts (you can cut and paste them into the vector of your choice, as a Lego piece) with a view to build engineering biological systems.
- **Biotechnology**: science that uses organisms or their metabolic products to get either a development, a tool or a procedure of interest (research, medical applications, industry…).
- **Biological chassis**: a structure that supports a man-made object. In the frame of **Synthetic Biology**, a biological chassis would be understood as the biological system (bacteria, yeast…) that supports the man-made object, i.e. the **BioBrick**.
- **Clone** (verb): process of cutting, purifying and pasting fragments of DNA (such as **BioBricks**) from one vector to another (among plasmids, for example) and amplifying them in the vectors upon transfer in (typically) bacteria or yeast.
- **Competent cell**: cell (typically bacteria or yeast) that is able to take up foreign DNA (from outside the cell). This transformation process, essential in molecular biology, allows to introduce fragments of DNA of interest (genes, promoters…) into a biological chassis. Here, it is necessary to differentiate between two concepts: natural/induced competency and **chemiocompetent/electrocompetent** cells. There are three main ways to transform a cell or, in other words, to introduce DNA into it:
  - **Transformation**: the DNA is taken up from the environment as explained above.
  - **Conjugation**: here there are two cells, a donor and an acceptor one. The donor has a plasmid with the information for sexual pili synthesis, a bridge that allows the movement of DNA among the two bacteria.
  - **Transfection**: viruses act like vectors. A cell is infected by a virus and in the process some fragments of DNA are introduced into the bacteria chromosome.
- **Electrophoresis**: technique where DNA is forced to move thought a network (tangle like) following an

electric field. As the DNA is negatively charged it will move from the negative pole to the positive one in such a way that the DNA molecules will be separated by their size (the molecules have to move into the network). DNA fragments can be visualized because of an added agent that inserts itself into the DNA molecule and fluoresces under ultraviolet light. An example of this method would be as follows: we have a **BioBrick** (insert) we want to release from an "origin plasmid", purify and clone into a "destination plasmid" (the plasmids and the **BioBrick** have different sizes); so, after digesting we carry out an electrophoresis for purifying the band corresponding to the **BioBrick**, now we ligate and transform. We select some colonies from transformants obtained, carry out a **miniprep** followed by a digestion and we check if the sizes observed in the electrophoresis gel are the expected ones: **BioBrick** & destination plasmid.

- **Genetic Engineering**: set of techniques for DNA incorporation to an organism to become a Genetically Modified Organism or GMO. The origin of this DNA can be an organism from the same species (**cisgenesis**) or from a different one (**trangenesis**).
- **Genotype**: set of genes from an organism. Based on the information obtained from the genotype the organism potential can be determined (what the organism could be).
- **Glycerinate**: method for microorganisms storage based on cryopreservation using glycerol as protecting agent (when water solidifies it forms crystals that can break the cells, by adding glycerol the damage is reduced due to the limited number of water crystals formed).
- **Medium**: set of nutrients (carbon, nitrogen, sulphur…) needed for the correct development, growth and division of cells (bacteria, yeast, human cells…). The media can be liquid or solid (agar added). It can be also supplemented for specific microbial requirements (a specific compound can be required for a particular microorganism) or for selecting some interesting characteristics.
- **Microbial Culture**: methodology used for microbial growth (cell multiplication in a culture medium) under controlled lab conditions.
- **Miniprep**: technique for plasmid extraction in small (typically several micrograms) scale.
- **Model organism**: organism that due to its short generation time, accessibility for working with (one could hardly work with a group of elephants in a molecular biology laboratory, for example), and well characterized genome and biology is used for the study and characterization of different biological phenomena (disease, traits…). Some model organisms are: the fly *Drosophila melanogaster*, the worm *Caenorhabditis elegans*, the toad *Xenopus laevis*, the baker's yeast *Saccharomyces cerevisiae* and the bacterium *Escherichia coli*, among others.
- **Modelling**: mathematical description of a biological system.
- **Phenotype**: observable characteristics of an organism (eye colour, for example). The phenotype of an organism is the result of the genetic background of the organism (the **genotype**) and the environmental conditions.
- **Plasmid**: circular DNA molecule. This molecule is separated and replicates independently of the chromosome (autonomous regulation). The most remarkable parts in a plasmid are: the **multicloning site** (plasmid region where a high number of restriction sequences can be found, in such a way that it makes possible to clone DNA fragments with different ends), the **replication origin** (dictates the

number of plasmid copies in the cell; based on this, the plasmids can be classified as high, medium and low copy number) and the **resistance cassette** (it makes possible the selection of cells transformed with the plasmid). There are two main kinds of plasmids according to the objective: **expression plasmids** (these plasmids are designed for the expression of cloned sequences) and **cloning plasmids** (these plasmids allow the amplification and maintenance of a sequence of interest).

- **Promoter**: DNA sequences where the transcription (first step of a gene expression) of a gene is started. The promoter also dictates when, under which conditions, genes are expressed (stress, in the presence of "x" molecules, constitutively, etc).
- **Protein**: biological molecules whose basic units are the amino acids. The proteins perform an array of functions in living organisms. From this group, the **enzymes** (proteins that catalyse biochemical reactions in the cell) stand out, since lot of them are widely used in molecular biology. Some examples of these enzymes are the **ligase** (enzyme that catalyses the joining of two DNA molecules), the **polymerase** (enzyme able to synthetize DNA from its basic elements; used in the DNA copy process called PCR) and the **restriction enzymes** (enzymes capable of break DNA at specific sequences, generating specific ends that will make possible the later joining with other molecule with equal ends).
- **Reporter gene**: gene whose output is easily measurable (fluorescence, for example).
- **Sterility**: process in which all the forms of life are killed, even the bacterial spores (the most resistant forms of life known).
- **Synthetic Biology**: interdisciplinary discipline whose goal is the construction and design of biological devices and systems through the application of the engineering principles to the field of biology.
- **Terminator**: DNA sequence that marks the end of a concrete gene.
- **Vector**: vehicle used to transfer genetic material, DNA, to a cell. A vector described previously would be a **plasmid**, for example.